



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/622,112

07/18/2003

Jin Hyun Kim

SI-0038

1630

7590  
FLESHNER & KIM, LLP  
P.O. Box 221200  
Chantilly, VA 20153-1200

11/15/2007

EXAMINER

HEIBER, SHANTELL LAKETA

ART UNIT

PAPER NUMBER

2617

MAIL DATE

DELIVERY MODE

11/15/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/622,112		KIM, JIN HYUN	
	<b>Examiner</b>		<b>Art Unit</b>	
	Shantell Heiber		2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 October 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,5-24 and 26-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-24 and 26-33 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

#### ***Response to Arguments***

2. Applicant's arguments filed on October 9, 2007 have been fully considered but they are not persuasive. The applicant argues that ***Lewis does not teach or suggest a data terminal unit that transmits operational state information of the repeater to the server over a different network than the server uses to transmit commands to the data terminal unit to correct a malfunction of the repeater.*** Lewis et al. discloses connections to multiple wireless networks (See Col. 13, line 62-Col. 14, line 14). Also, according to Col. 11, lines 30-35, Lewis et al. discloses communication-related functions such as entering text message for transmission over a communication network. The router has a store and forward structure that permits SMS messaging over the networks (Col. 16, lines 31-34). Lewis et al. in combination with Nakashima et al. discloses the amendments as stated in claims 1, 7, 13 and 23.

Therefore, the examiner maintains all rejections as set forth below.

#### ***Allowable Subject Matter***

3. Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 2, 5, 7-10, 13-21, 23, 24 and 27-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lewis et al (Lewis), U.S. Patent No. 7,010,303 in view of Nakashima et al. (Nakashima), U.S. Patent No. 6,470,385.

**Regarding Claims 1, 2, 7, 13, 23 and 24**, Lewis discloses a repeater remote control system in a mobile communication system comprising: a server that controls at least one repeater through packet data transmissions sent through a mobile IP network; and a data terminal unit that establishes a first link between said repeater and the server through a mobile communication network, wherein the data terminal unit sends information indicative of said repeater to the server through the mobile communication network and wherein the server sends commands to the data terminal unit through the mobile IP network, wherein a second link is established between said repeater and the server by interworking with the mobile IP network. **The wireless router 20 implements features necessary to support pushing data to the mobile device 24. The data could be a response to a request from the device or could be real-time response to a mobile device's query all of which could be that of**

**software updates to push user data items in a routing system that is implemented primarily in software (See Col. 17, lines 9-23 and Col. 29, lines 62-65). Data is exchanged between the mobile device and host system through the mobile IP network. (See Col. 6, lines 4-12; Col. 13, lines 6-12; Col. 15, lines 54-61 and Figure 1).**

Lewis fails to specifically disclose wherein the data terminal unit sends information indicative of an operational status of said repeater.

In the same field of endeavor, Nakashima discloses a network monitoring system, monitored controller, and monitoring controller. Nakashima further discloses wherein the data terminal unit sends information indicative of an operational state of said repeater to the server through the mobile IP network. **A network monitoring system where a point to multipoint connection between a network device 10a to 10n and monitoring station 30a to 30n is established that passes through a broadcast unit 20. A status message of the network device is transmitted to the monitoring stations when a status change is detected in the network device via the broadcast unit (See Abstract; Col. 4, lines 9-51 and Figure 1). An object of the invention, is to increase the efficiency in network monitoring activities all in which operations and maintenance of communication links require highly sophisticated network monitoring technologies (See Col. 1, lines 14-22 and Col. 2, line 27).**

At the time of invention, it would have been obvious to a person of ordinary skill in the art to implement a routing system to allow for a point to point communication

connection between mobile devices and host system to allow for data items to be transmitted (Lewis-Abstract).

**Regarding Claim 14**, Lewis and Nakashima disclose wherein establishing the link includes transmitting at least one SMS message within the mobile communication network. **Lewis-the mobile device 24 include a keyboard 232 and display 222 that is used for communicating by entering text messages for transmitting data packets over the mobile communication network (Col. 11, lines 30-35 and Col. 12, lines 11-16). The router 20 has a store and forward structure that permits SMS messaging over the networks (Col. 16, lines 31-34).**

**Regarding Claims 5 and 15**, Lewis and Nakashima disclose wherein the server sends said packet data transmissions to said repeater by matching with an IWF (InterWorking Function) within the mobile IP network, wherein establishing the link includes transmitting a wireless modem ring signal upon matching with an IWF (InterWorking Function) within the mobile communication network. **Lewis-links are established between the system 28 and device 24 for transmitting data packet messages. Information is transmitted via a router 20 through different networks 26 which inherently include an IWF within the mobile communication network for allowing communications between the different networks (see rejection for claim 1).**

**Regarding Claims 8, 9, 16, and 17**, Lewis and Nakashima disclose wherein said establishing the first link comprises: checking whether the data terminal unit is in a normal state, said checking performed by the repeater; if the data terminal unit is in the

normal state, transmitting server connection information from the repeater to the data terminal unit; conducting a procedure for approval of connection with the server through the mobile communication network based on the server connection information; and receiving a message indicating the server connection approval and transmitting the received message to the repeater, wherein server connection information comprises at least one of a phone number, an IP address, and server port information of the server to be connected (**Lewis-when the router 20 is in a waiting state S800 or normal state it receives messages that could be data messages from device 24, data item from host server or a registration message. The first step in receiving a registration message consists of a procedure for approval of connection (Col. 27, lines 4-26 and 42-45). When the message comes from the device 24 to the service 28, the device provides the router with the host service ID for locating and registering the correct host for the data message. The host service ID is stored in the HIH within a database of the router and could be an IP address; Col. 14, lines 15-40; Col. 15, lines 17-29 and Col. 18, lines 21-29),** wherein establishing the link comprises: checking an ID and connection state of the repeater by loading a stored repeater management table; and if the link has not been established with the repeater, establishing the link by transmitting an SMS message or ring signal to the data terminal equipment connected to the repeater and wherein said repeater management table comprises one or more of the following: a repeater ID field, a data terminal phone number field, a connection state field, a connection ID field, a field of IPs assigned to the data terminal equipment, and a download status field.

**(Lewis-when the server 28 wishes to establish a link with the device 24 it sends a message including an identifier which could be an IP address that corresponds to the device; Col. 17, line 58-Col. 18, line 15).**

**Regarding Claims 10, 20, 21, 30 and 31, Lewis and Nakashima disclose further comprising: checking a version of control software embedded in the repeater; and updating the repeater with a new version of the control software transmitted from the server to the data terminal unit through the mobile IP network, collecting information required for repeater management and remote control, and reporting the information to the server at an information report time, wherein the collected information indicates at least one of whether the repeater is in operation or a version of control software in the repeater, wherein the operation information includes the collected information, further comprising: determining whether a version of control software in the repeater is outdated; and updating the repeater with new control software and wherein the updating step includes: transmitting the new control software from the server to the repeater over the first link. Lewis-the system inherently checks whether the device needs to be updated with a new version of software, if so, this information is collected and sent to the host system. The host system sends the updated software by means of sending data items through the mobile communication network via router 20 (Col. 3, lines 50-60).**

**Regarding Claims 18, 19 and 28, Lewis and Nakashima disclose further comprising: collecting status information of the repeater connected to said data terminal equipment, and then reporting the status information to the server at an**



information report time, wherein said operation information includes the status information, wherein the status information includes information indicative of a cause of an alarm occurring at the repeater and information relating to an internal location of the repeater when the alarm has occurred and wherein the first link is established after a disorder occurs in the repeater. **Nakashima-the monitored controller 10a sends status messages (operational information/status information) which can be faults (disorders) to the monitoring stations 40a to 40n via the broadcast unit 20 this inherently can cause an alarm to occur at the monitored controller (Col. 4, lines 41-51).**

**Regarding Claim 27,** Lewis and Nakashima disclose wherein the first link is established at a time of initial operation of the repeater. **Lewis-the mobile device has the host service identifier stored during initialization at the reseller, distributor or manufacturer wherein the first link can be established (Col. 18, lines 29-34).**

**Regarding Claim 29,** Lewis and Nakashima disclose wherein the first link is established after a determination is made that the repeater has data to transmit to the server **(see rejections for claims 1, 8 and 9).**

6. Claims 6, 11, 12, 22, 26, 32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lewis in view of Sen et al. (Sen), U.S. Patent No. 6,208,620.

**Regarding Claims 6, 11, 12, 22, 26, 32 and 33,** Lewis discloses the system and method as described above.

Lewis and Nakashima fails to disclose wherein the data terminal unit is controlled according to an IS-707 standard, further comprising: checking whether a disconnection request has been sent from the server, said checking performed by the repeater; and if no disconnection request has been sent, unless there is data transmission with the server during a standby time, automatically disconnecting at least one of the first link and second link and wherein said automatic disconnection comprises: after the disconnection, checking whether data exists that has not yet been transmitted to the server from the repeater, said checking being performed by the repeater; and if such data exists, sending a connection request again to the server.

In a similar field of endeavor, Sen discloses a TCP-aware agent sublayer (TAS) for robust TCP over wireless. Sen further discloses wherein the data terminal unit is controlled according to an IS-707 standard, further comprising: checking whether a disconnection request has been sent from the server, said checking performed by the repeater; and if no disconnection request has been sent, unless there is data transmission with the server during a standby time, automatically disconnecting at least one of the first link and second link and wherein said automatic disconnection comprises: after the disconnection, checking whether data exists that has not yet been transmitted to the server from the repeater, said checking being performed by the repeater; and if such data exists, sending a connection request again to the server.

**The RLP is specified in IS-707 which is a protocol used for sending frames over**

**a communications system. If the frames have not been correctly received after numerous timer resets, the trails are aborted inherently disconnecting a link. Because frames still exist and need to be transmitted, the system will then go through a process of caching & retransmitting of packets and monitoring & manipulating of delayed ACK (Col. 4, line 57-Col. 5, line 8 and Col. 6, lines 42-49).**

At the time of invention, it would have been obvious to a person of ordinary skill in the art to minimize the effects of faults when transmitting packet messages over an air link (Sen-Abstract).

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Aramoto, U.S. Patent No. 6,980,558 discloses a method of distributing program to a plurality of nodes within a network by using gateway.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shantell Heiber whose telephone number is 571-272-0886. The examiner can normally be reached on Monday-Friday 7:00am-3:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on 571-272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Application/Control Number:  
10/622,112  
Art Unit: 2617

Page 11

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
SLH

  
JOSEPH FEILD  
SUPERVISORY PATENT EXAMINER